

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P243584

Luminaire Tested: S124RDRP-H1020D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243584  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-H1020D935-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

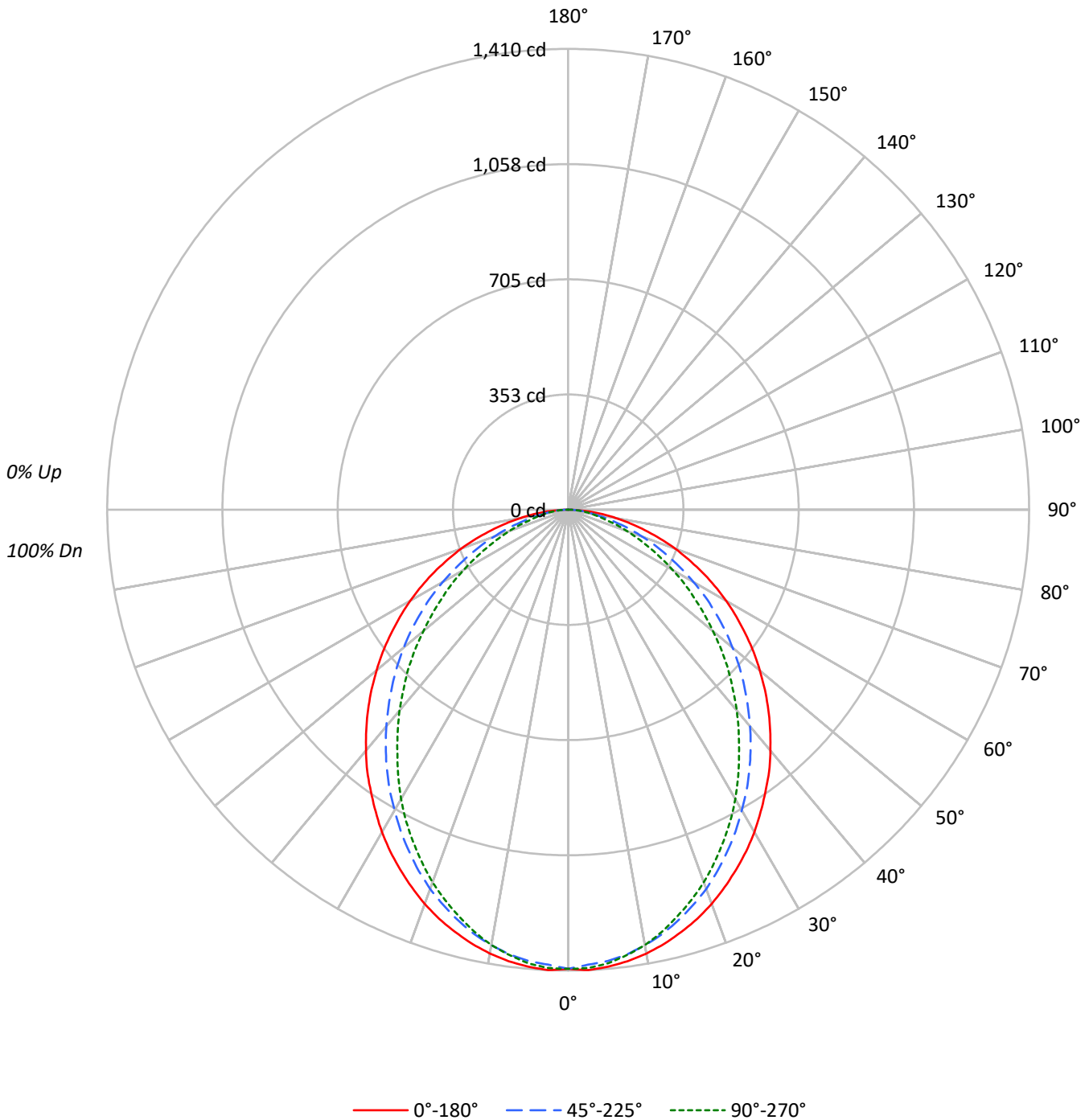
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3312.6 lumens  
Efficiency: N/A  
Efficacy: 105.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	12487	12487	12487
5°	12525	12368	12433
10°	12445	12211	12211
15°	12307	11973	11859
20°	12141	11679	11474
25°	11917	11306	11001
30°	11695	10896	10492
35°	11419	10497	9889
40°	11164	10045	9311
45°	10883	9566	8705
50°	10580	9074	8000
55°	10250	8516	7295
60°	9934	7870	6562
65°	9507	7109	5736
70°	9052	6279	4985
75°	8366	5234	4059
80°	7643	4085	3716
85°	6772	3916	3702

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10883 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.1	4.0
10°-20°	368.9	11.1
20°-30°	535.0	16.2
30°-40°	609.8	18.4
40°-50°	593.3	17.9
50°-60°	498.4	15.0
60°-70°	347.2	10.5
70°-80°	179.3	5.4
80°-90°	48.5	1.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1036.1	31.3
0°-40°	1645.9	49.7
0°-60°	2737.6	82.6
0°-90°	3312.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3312.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1405	1405	1405	1405	1405	
5°	1404	1400	1386	1396	1393	133
15°	1337	1327	1301	1299	1289	377
25°	1215	1192	1153	1136	1122	560
35°	1052	1020	967	931	911	659
45°	866	824	761	712	692	668
55°	661	619	550	494	471	592
65°	452	408	338	289	273	447
75°	244	206	152	128	118	259
85°	66	42	38	36	36	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1404.8	1404.8	1404.8	1404.8	1404.8
2.5°	1410.0	1405.8	1393.4	1404.8	1403.7
5°	1403.7	1399.6	1386.1	1396.5	1393.4
7.5°	1393.4	1388.2	1372.6	1379.9	1374.7
10°	1378.8	1373.7	1352.9	1358.1	1352.9
12.5°	1360.2	1352.9	1330.1	1331.2	1322.9
15°	1337.4	1327.0	1301.1	1299.0	1288.7
17.5°	1312.5	1299.0	1269.0	1263.8	1252.4
20°	1283.5	1266.9	1234.7	1223.3	1213.0
22.5°	1250.3	1230.6	1195.3	1181.9	1168.4
25°	1215.0	1192.2	1152.8	1136.3	1121.7
27.5°	1178.8	1151.8	1109.3	1088.6	1074.1
30°	1139.4	1108.3	1061.6	1037.8	1022.2
32.5°	1095.8	1064.7	1016.0	987.0	967.3
35°	1052.3	1020.1	967.3	931.0	911.3
37.5°	1009.8	973.5	916.5	879.1	856.3
40°	962.1	923.7	865.7	823.2	802.4
42.5°	914.4	875.0	812.8	768.2	745.4
45°	865.7	824.2	761.0	712.2	692.5
47.5°	815.9	774.4	709.1	658.3	635.5
50°	765.1	723.6	656.2	600.3	578.5
52.5°	715.3	671.8	604.4	547.4	524.6
55°	661.4	618.9	549.5	493.5	470.7
57.5°	609.6	565.0	497.6	440.6	421.9
60°	558.8	514.2	442.7	387.7	369.1
62.5°	504.9	460.3	389.8	336.9	320.3
65°	452.0	408.5	338.0	289.2	272.7
67.5°	398.1	358.7	290.3	243.6	230.2
70°	348.3	303.8	241.6	201.1	191.8
72.5°	295.5	256.1	195.9	162.8	155.5
75°	243.6	206.3	152.4	127.5	118.2
77.5°	195.9	159.7	115.1	94.3	94.3
80°	149.3	117.2	79.8	74.6	72.6
82.5°	105.7	75.7	59.1	54.9	53.9
85°	66.4	42.5	38.4	36.3	36.3
87.5°	32.1	19.7	19.7	18.7	18.7
90°	0.0	0.0	0.0	0.0	0.0



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**CIE UGR TABLE:**

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	20.22	21.80	20.59	22.11	22.43	18.33	19.90	18.69	20.21	20.53
	3H	22.04	23.46	22.42	23.78	24.14	19.59	21.01	19.97	21.33	21.70
	4H	22.72	24.05	23.12	24.40	24.78	19.98	21.32	20.38	21.67	22.04
	6H	23.24	24.47	23.65	24.83	25.23	20.26	21.50	20.67	21.86	22.25
	8H	23.41	24.58	23.83	24.97	25.37	20.36	21.54	20.79	21.93	22.33
	12H	23.52	24.65	23.95	25.03	25.46	20.44	21.57	20.87	21.95	22.38
4H	2H	20.57	21.91	20.97	22.26	22.63	19.03	20.36	19.43	20.71	21.09
	3H	22.59	23.70	23.00	24.10	24.50	20.48	21.59	20.89	21.99	22.39
	4H	23.40	24.41	23.83	24.82	25.26	20.96	21.96	21.39	22.37	22.81
	6H	24.05	24.92	24.50	25.36	25.82	21.32	22.20	21.78	22.64	23.10
	8H	24.26	25.08	24.72	25.52	25.99	21.46	22.28	21.92	22.72	23.19
	12H	24.43	25.16	24.91	25.64	26.11	21.58	22.31	22.06	22.79	23.26
8H	4H	23.51	24.33	23.97	24.77	25.24	21.29	22.11	21.75	22.55	23.02
	6H	24.23	24.91	24.73	25.40	25.88	21.74	22.42	22.24	22.91	23.38
	8H	24.51	25.11	25.02	25.62	26.11	21.93	22.54	22.45	23.05	23.54
	12H	24.74	25.27	25.24	25.76	26.33	22.12	22.66	22.63	23.15	23.71
12H	4H	23.50	24.23	23.98	24.71	25.18	21.34	22.07	21.82	22.54	23.01
	6H	24.23	24.84	24.74	25.34	25.83	21.80	22.41	22.31	22.92	23.41
	8H	24.54	25.08	25.05	25.57	26.13	22.05	22.59	22.56	23.08	23.64